



**Asia-Pacific
Economic Cooperation**

2016/SMEWG43/003

Agenda Item: 15.3

APEC SME Internationalization Model Indices: Development and Application

Purpose: Information

Submitted by: Korea



**43rd Small and Medium Enterprises Working Group
Meeting
Lima, Peru
7-8 September 2016**



I. Background and Objectives

➤ Background

- Internationalization is important for SMEs, and needs for government support policies are increasing in order to facilitate and diversify SME internationalization.
- As such, it is essential to objectively assess SME internationalization levels using model indices, on which potential problems in internationalization must be addressed.
- In this respect, APEC has stressed the importance of studies on the development of model indices and data collection regarding SME internationalization.
- Major Processes
 - Acceptance of concept note / project proposal : May / July 2015
 - Tender / Decision : July 2015
 - Contract / Initiation : September 2015 (KOSBI)
- Period and Budget : September 2015 ~ July 2016 (10.5 months)
\$160,000 (APEC, \$110,000); Korea \$50,000

I. Background and Objectives

➤ Objectives of This Study

- To establish APEC model indices to measure the level of SME internationalization
- To collect relevant data to diagnose the SME internationalization status of APEC economies
- To make policy recommendations for APEC economies to build capacities for successful internationalization



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II. Overview of APEC Study

[1st stage]
Model
Development

- Development of APEC SME Internationalization Model Indices
- Reflection of comments from APEC economies to complete the Model
- Mid-September ~ Mid-December 2015

[2nd stage]
Pilot Project

- Conduction of 5 Pilot projects
- Collection of data and relevant information based on survey questionnaire
- Mid-December 2015 ~ Mid-May 2016

[3rd stage]
Model
Application

- Analysis and Indexation of Pilot project results applying the Model
- Making of policy recommendations
- Mid-May ~ July 2016



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III. Definition and Model Indices of SME Internationalization

➤ Definition and Type of SME Internationalization

- (Definition) SME internationalization is defined as the process through which SMEs strengthen their positions for global business by diversifying overseas markets and sourcing methods based on firm capacities.
- (Type of Internationalization activity) Export/import, international subcontracting*, international cooperation and FDI

* Int'l Subcontracting: an unique activity to SMEs, not MNEs, prevailing with the expansion of GVCs
 - being subcontractors to foreign enterprises
 - having foreign contractors (APEC, 2015).

➤ Model Indices

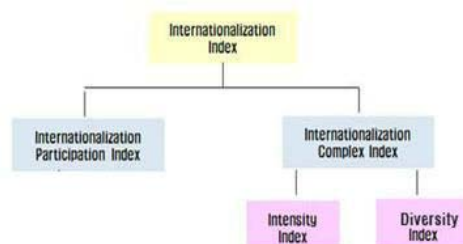
- APEC SME Internationalization Model Indices are rooted in [the New-New Trade Theory](#) that explains a firm's internationalization activities in terms of corporate productivity and fixed export costs, with the assumption that firms are heterogeneous.



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III. Definition and Model Indices of SME Internationalization

<SME Internationalization Model Indices>



IPI	ICI	
	Intensity Index	Diversity Index
The sum of binaries that a SME takes among five internationalization activities divided by 5	The average value of each type of activities per economy	number of partner economy

IV. Pilot Projects

➤ 5 Pilot Projects

- Period: 18 December 2015 ~ 15 May 2016
- Participating economies: Chile, Korea, Malaysia, Thailand, Philippines
- Methodology
 - Five local consultants, designated by each government, collected data on internationalization by conducting surveys on their SMEs.
 - Seoul Meeting (December 18 2015)
 - : Examined survey questionnaires and discussed methodologies
- Sampling
 - (Target population) 300 exporting SMEs in the manufacturing sector
 - (Definition of SMEs) Followed the definitions of each economy
- State of Data Collection
 - Chile (64), Korea (272), Malaysia (22), Thailand (300), Philippines (62)

V. Analysis Results

1. Calculation Results

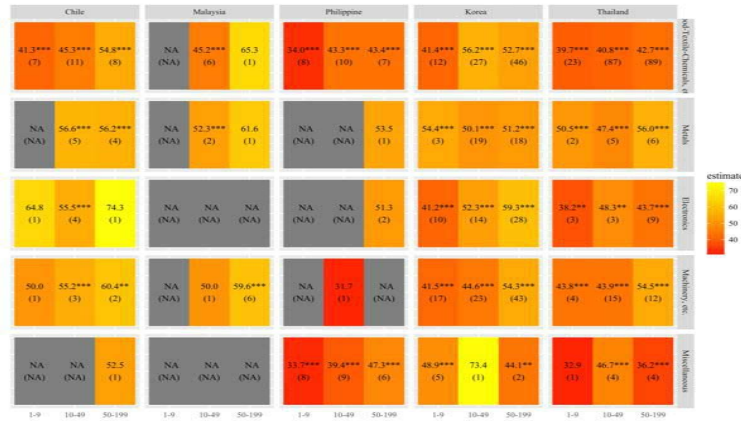
- Internationalization Participation and Composite Indies (standardized)

Economy	Number of Firms	Participation Index	Intensity Index	Diversity Index	Internationalization Index
			Amount/ No. of Economy	No. of Economy	Average Value of Three Indices
APEC	720	49.5528	46.0968	44.8126	46.8208
A	64	55.044	48.951	41.193	48.396
B	22	63.312	44.927	45.878	51.372
C	62	35.493	41.118	44.552	40.388
D	272	49.918	52.636	52.041	51.532
E	300	43.997	42.852	40.399	42.416

V. Analysis Results

2. Index Analysis

➤ Comprehensive Analysis according to Economy, Industry and Firm Size



V. Analysis Results

➤ Diversity-Intensity Tendency



Note: Economy dummies have been controlled.
Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

V. Analysis Results

➤ Determinants of SME Internationalization

$$Y = \alpha + X\beta + e$$

Y: internationalization index
X: firm characteristics, government policy, industry dummies

- Firm size, R&D, export history, openness and Industry characteristics matter.
- On the other hand, readiness for market advance, no. of patent and government support are not significant.

VARIABLES	Estimated coef.	Standardized coef.
export_age	4.346***(1.505)	.110
Firm size	3.307***(0.687)	.176
R&D	2.499**(1.159)	.090
f_capital (openness)	4.684**(2.154)	.092
Patent	0.000(0.008)	.0001
patent_etc	-0.033(0.031)	-.018
export_dep	1.636(1.284)	.060
Material	0.187(1.131)	.006
policy_yn	-0.858(1.092)	-.029
_lindustry_2	3.354*(1.878)	.074
_lindustry_3	3.849**(1.839)	.092
_lindustry_4	1.043(1.489)	.030
_lindustry_5	0.428(2.146)	.007
Constant	36.522***(2.515)	
Observations	618	
R-squared	0.20	

Note: Economy dummies have been controlled.
Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

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VI. Conclusion

➤ Summary and Conclusion

- Based on the above analysis, it is concluded that the SME Internationalization Model Indices are feasible and applicable for measuring the internationalization of SMEs in the APEC region.
- The bigger the firm size, the higher the internationalization level.
- Industry characteristics hold great importance.
- Moreover, R&D, export history and openness are proven as the major determinants of SME internationalization.
- On the other hand, the effectiveness of government support needs to be examined.

➤ Limitations and Future Schedule

- This study has a few limitations in terms of data collection due to constraints related to budget and time, and thus reliability in comparative analysis became difficult in some cases.
- For future studies, due consensus is required among member economies regarding the importance and necessity of data collection.
 - Moreover, the scope of study needs to be further expanded to non-exporting SMEs and service SMEs.

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Thank you!

